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ABSTRACT

This study examined the maternal teaching practices of Mexican American mothers and the relation of these practices to their children's task performance. The questions considered in the study were: (1) what teaching behaviors characterize maternal instruction; (2) how does use of these behaviors change throughout instruction; and (3) how do these teaching behaviors relate to child performance. The subjects of the study were 17 Mexican American mother-child dyads, recruited from preschools that served middle- to low-income families. All mothers were required to be proficient in English and use it predominantly in their household. Shoelace tying was the task chosen for the purposes of the study. Mothers were asked to use 48 hours to instruct their children to tie shoelaces so that they become fully competent in the task. A pretest and post-test were conducted to evaluate the children's task performance. The three categories of variables examined were: instruction time, mother's teaching behavior, and child's task performance. Analysis of data indicated the most frequent forms of verbal instruction and non-verbal behaviors used by the mothers. Statistical tests revealed that children did perform significantly better after instruction, but instruction time was not significantly associated with task performance. Some other patterns that emerged were mothers' preference to instruct in multiple short sessions, greater reliance on verbal instructions, and maternal instruction influenced by maternal education. The limited size and nature of the sample however, prevent the findings from being generalized. Contains 39 references. (BAC)

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Instruction Across Time: The Case of Mexican American Mothers with an Everyday Activity

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Instruction Across Time: The Case of Mexican American Mothers with an Everyday Activity

A variety of research has attempted to study the transition between home and school (Heath, 1983; Laosa, 1982; Delgado-Gaitan & Trueba 1991). This research area has been particularly important for ethnic and racial minority groups in the United States who suffer from lower educational attainment. This is particularly the case for the Mexican American population which has one of the lowest high school completion rates of any ethnic or racial group (Chapa, & Valencia, 1993).

Educational researchers have argued that discontinuity between home and school can hinder the academic success of ethnic and racial minority children. The greater the diversity between home and school culture, the less these two contexts can mutually support learning (Delgado-Gaitan & Trueba 1991; Jordan, 1984; Laosa, 1982; Tharp, 1989). Research in this area has ranged from examining the home environment (Henderson, 1968) to examining the educational settings (Tharp, & Gallimore, 1988).

Arguing that the mothers are the primary intellectual socializing agents, much of this early research focused on the dyadic teaching interactions of mothers with their preschool aged children (Bee, Van Egeren, Streissguth, Nyman, & Leckie, 1969; Brophy, 1970; Feshbach, 1973; Hess & Shipman, 1965; Laosa, 1980; Steward & Steward, 1973). Much of this early research, stemming from a sociolingusitic tradition, suffered from various methodological and conceptual difficulties (Cole & Bruner, 1971; Moreno, 1991; Sroufe, 1970), and has given way to newer research arising from a sociocultural tradition and research on effective tutoring strategies inspired by Vygotsky (Rogoff, Ellis, &

Gardner, 1984; Wood, Bruner, & Ross, 1976; Wood & Middleton, 1975; Wood, Wood, & Middleton, 1978; Wertsch, McNamee, McLane, & Budwig, 1980).

According to this line of research, instruction is most effective when it occurs within the "zone of proximal development" (ZPD). According to Vygotsky, this "zone" is "*...the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with a more capable peer*" (1978, p.86). Thus, for any given child engaged in a problem solving task, the ZPD is indicated by the child's maximum independent performance and the maximum performance that could be achieved with the aid of an expert. Movement from the inner to the outer parameter of the zone is accomplished through joint collaboration between the two agents.

Although instruction within the ZPD is necessary for effective instruction, it may not be sufficient. Evidence suggests that the more competent teachers are those who interact continentally or "scaffold" students within the ZPD (Ellis & Rogoff, 1982; Rogoff, 1986; Wood et al., 1978). That is to say, effective teachers are those who are sensitive to the needs of the child and intervene only when it is necessary. They are sensitive to both the demands of the task and the capacities of a child. The more competent teacher realizes that the child may recognize task-appropriate goals before he/she can actually produce the appropriate sequence of behaviors. The teacher's role, then, is to control or regulate those aspects of the task that the child cannot complete alone, (Freund, 1990) while at the same time "withdrawing" from the child to allow him/her to complete those aspects of the tasks that are reasonably challenging (Díaz, Neal, & Amaya-Williams,

1990). Ultimately, the shared responsibility of completing the task is transferred from the adult to the child (Rogoff, 1990).

Cross-cultural research has shown that culture can not only influence the content of what a child learns, but also the way in which a child is taught. The instructional tools by which one teaches or scaffolds a child to competence may vary as a result of a culture's own restrictions and allowances (Greenfield, 1984; Rogoff, 1990; Rogoff, Mistry, Göncü, & Mosier, 1993). Collectively, these findings suggest that models of instruction, and, in particular, what constitutes effective instruction must be defined within specific cultural parameters. Unfortunately, much of the more recent research on maternal teaching interactions stemming from a social historical tradition has neglected to explore cultural differences within the United States (for an exception see Roberts & Barnes, 1992). This has particularly been the case for the Mexican American population.

Research that has examined the maternal teaching interactions of Mexican Americans suggests that instructional differences among Mexican American and non-Hispanic whites may be due to maternal education. For example, Laosa (1980) found that cultural differences among Chicana and Anglo mothers, disappeared when mother's level of education was statistically controlled. Recent research has begun to challenge this finding suggesting that cultural differences may persist, even among well-educated samples (Moreno, 1991, 1994).

Unfortunately, there is a paucity of research examining the maternal teaching interactions of Mexican Americans beyond the earlier comparative studies (Laosa, 1980; Steward & Steward, 1973, 1974). Although these studies provide general characterizations of maternal teaching interactions among various racial/ethnic and social class groups including Mexican Americans,

they do not provide a clear understanding of how these mothers may change or alter their behavior throughout the instructional process, nor do they indicate how these changes may relate to children's performance.

The following study is an attempt to understand the maternal teaching practices of Mexican American mothers and the relation of these practices to their children's task performance. The study focuses on the following questions: (a) What teaching behaviors characterize maternal instruction? (b) How does the use of these behaviors change throughout instruction? and (c) How do these teaching behaviors relate to child performance?

Method

Subjects

The study consists of 17 Mexican American mother-child dyads. The mean age of the children was 51.1 months (SD =7.8). Of the 17 children in the sample, 10 were male and 7 were female. The mean age of the mothers was 29.9 years (SD =5.12). Mothers mean number of years in school was 12.3 years (SD = 2.35). Families were recruited from preschools that served middle- to low-income Mexican American families. Families were provided a stipend for their participation. In order to avoid the confound of language, all mothers had to be proficient in English and predominantly use English in the household. To verify this, all mothers were administered the Marín and Marín short scale acculturation assessment (1991). On a scale ranging between 1 and 5, the assessment measures the use of English and Spanish in the home (1 = Only Spanish; 3 = Bilingual; 5 = Only English). Mexican American mothers' mean score was 4.16 (SD = .88).

Procedure

Once a mother agreed to participate in the study, a researcher scheduled a meeting with the mother and child at the family home. During this initial meeting, the mother was reminded that the purpose of the study was to understand how mothers typically teach their children in the home, and was given two instructions. First, the mother was told to "teach your child to tie his/her shoelaces so that he/she can do it by himself (or herself)." Here, it was emphasized that the goal of the next 48 hours was to instruct the child such that he/she could become fully competent in the task. It was also made clear that the mother had full control of the time, duration, and instructional technique within the 48 hour period.

Second, mothers were told to videotape all instruction sessions. Each mother was provided with all the necessary videotape equipment to record their interactions. This included a video camera (VHS), a tripod, and a video cassette tape. The mothers were trained how to set-up and operate each piece of equipment. Mothers were also provided with a phone number to contact the researcher in case of any questions. The total instruction time was limited to two hours, the maximum length of one videotape cassette.

To establish a baseline by which the child's task improvement could be measured, the researcher conducted a pretest in which the child was video recorded attempting to tie his/her shoe. This was done prior to any instruction by the mother. To obtain a more naturalistic observation, the pretest was recorded where the activity might normally occur (i.e., bedroom, living room, etc.). At the conclusion of the training, the researcher scheduled to return after a 48 hour period. At the end of this period, the researcher returned to the home and conducted a post-test to document any

improvement in the child's task performance. At that time, the session was completed and the equipment was collected.

Task

Shoelace tying was selected for two reasons: a) It represents a common "everyday" task, and b) the task is well within the capabilities of normal preschool age children. In keeping with this naturalistic approach, mothers were free to use any materials that they deemed useful for instruction.

Task Performance

In order to evaluate the children's task performance, each child's level of task proficiency was assessed prior to any instruction (pretest), and again at the end of the 48 hour period (posttest). Each assessment was recorded on videotape by the experimenter. A task analysis was used to break down the shoetying procedure into the following ten steps: (a) picks up laces; (b) crosses laces; (c) wraps one lace under the second; (d) pulls laces tight; (e) loops first lace; (f) loops second lace; (g) crosses both loops; (h) wraps the first loop under the second; (i) pulls the loops tight; and (j) produces a bow. The children received a point for each of the steps successfully completed. A possible score ranged from zero (no steps completed) to ten (all steps completed).

Measures

The study examined three general categories of demographic variables: Instruction time, mother's teaching behavior, and child's task performance. The variables selected for analysis are based on previous research where significant group differences have been identified (Díaz et al., 1991; Laosa, 1980a; Moreno, 1991).

Demographic Variables. Mothers were asked to complete a series of 6 items that provided relevant demographic information. These items include (a) mother's work hours, (b) annual household income, (c) number of people in the household, (d) mother's one-on-one time with child, (e) mother's years in school, and (f) mother's occupation.

Mother's occupation was categorized using the occupation section of the "Four Factor Index of Social Status" (Hollingshead, 1975). The scale ranges from one to nine (1 = menial; 2 = unskilled; 3 = semiskilled; 4 = skilled manual; 5= clerical/sales; 6 = semiprofessionals; 8= lesser professionals; and 9= major professionals).

Instruction Time. This includes (a) the total number of instruction sessions, (b) the duration of each session, (c) the amount of total instruction.

Maternal Teaching Behaviors. All maternal behaviors were coded according to one of the following categories:

1) *Perceptual questions* - Questions in which the answer can be found in the immediate perceptual field ("What is this?"; "Where does this loop go?").

2) *Conceptual questions* - Questions that require the child to form a conceptual, mental representation of the task beyond the immediate perceptual field ("What do we do first?"; "Why is it important to tie our shoes?").

3) *Commands* - Statements that tell the child in an imperative tone what to do next ("Make a loop."; "Pull!").

4) *Directives* - The mother verbally directs the child's behavior, but in a softer manner than a command, with a collaborative tone ("Let's criss-cross the laces."; "Now we can make a loop.").

5) *Praise* - Verbal reinforcement or acknowledgment that the child has performed correctly (e.g., "Good job."; "Great!").

6) *Competence attribution* - Statements of praise and encouragement that attribute success to the child's general competence level ("You're a smart kid.").

7) *Disapproval* - The mother verbally indicates that she is displeased with the child's course of action or behavior ("You're not trying.").

8) *Corrections* - Statements that correct the child's choice or behavior ("No, not like that.").

9) *Labeling* - Statements in which the mother labels the task or behaviors involved with the task.

10) *Other verbalizations* - Statements which did not fall into any of the above categories ("OK," "uh-huh").

11) *Modeling or demonstration* - The mother performs aspects of the task for the purpose of the child's observation.

12) *Visual Cue and Physical Correction* - Mother physically points or manipulates the task to correct the child.

13) *Physical Praise* - Mother physically reinforces the child (e.g., hug, pat on head).

Results

The demographic responses are listed on Table 1. It should be noted that all of the mothers were employed outside the home, with 64% of the mothers working 40 or more hours per week; however, all mothers identified themselves as the primary caregiver. As a group, the mothers averaged 12.3

years of formal education (SD = 2.35), with 76% of the mothers completing high school.

Examination of the mothers' teaching interaction indicates that instruction occurred over multiple sessions (M = 2.68, SD = 1.3) with the mean duration of these sessions lasting 6.1 minutes (SD = 4.0 minutes). The total amount of instruction time averaged 15.9 minutes (SD = 8.8) in duration. To account for the variations in the duration of instruction, and to compare equivalent portions of each teaching interaction, nine minute segments of the interactions were selected for analysis. These nine minute segments constituted the first three, middle three, and the final three minutes of the observed interactions.

As indicated by Table 2, *commands, labeling* and *other verbal* utterances were the most frequently used form of verbal instruction with *modeling*, and *visual cues and corrections* being the most frequent non-verbal behaviors. *Competence attributions, disapproval,* and *physical praise* were rarely used and dropped from further analyses.

Correlations were calculated to asses whether particular teaching behaviors were associated with maternal education levels. The analyses indicated maternal education was positively associated with the use of *praise* ($r = .63$, $p < .01$) and negatively associated with *corrections* ($r = -.56$, $p < .05$), *modeling and demonstration* ($r = -.57$, $p < .05$), and *visual cues and physical corrections* ($r = -.57$, $p < .05$). The findings indicate that more educated mothers use more verbal praise but less verbal corrections, modeling and demonstration, and visual cues and physical corrections.

A MANOVA (repeated measures design) was performed next to examine the changes in maternal instruction across time (time 1, time 2, and time 3). Table 3 shows the means and standard deviation of each of the

teaching behaviors in each time period. The analysis revealed a significant multivariate main effect for TIME $F(22,46)= 2.93$, $p< .001$, suggesting that the mothers' instruction changed across the period of instruction. Subsequent univariate analysis indicated a significant main effect of TIME on *commands* $F(2, 32)=3.78$, $p< .03$; *directives* $F(2, 32)=4.86$, $p< .01$; *labeling* $F(2, 32)=20.17$ $p< .000$; *perceptual questions* $F(2, 32)=4.44$ $p< .02$; *other verbal* $F(2, 32)=4.44$ $p< .02$; and *modeling & demonstration* $F(2, 32)=3.50$ $p< .04$ suggesting that mothers decreased the use of these behaviors over the instruction time.

Maternal Instruction and Child Performance

A t-test was conducted to determine whether the children significantly improved in their performance as a result of instruction. The test indicated that the children did perform significantly better $t(1,16)= 6.93$, $p< .000$ after instruction ($M=7.65$, $SD = 3.04$) as compared to their initial performance ($M=3.24$, $SD = 2.25$).

Next, a series of partial correlations (controlling for children's prescores) was conducted to examine the relation between children's task performance and the total amount of instruction time, the number of instructional sessions, and the instructional behaviors (summed across the three time periods). The analyses indicates that neither the total amount of time spent on instruction, nor the number of instructional sessions, was significantly associated with children's task performance. The maternal teaching behaviors, however, were associated with task performance. Specifically, the analysis indicated that the mothers' use of *commands* ($r =-.45$, $p< .04$) and *praise* ($r = .40$, $p< .06$) were associated with children's performance, suggesting that greater use of verbal commands is associated

with poor performance while use of praise is associated with greater performance in children.

A series of partial correlations was then computed examining the mothers teaching behavior and children's task performance at each of the three periods in the instruction (time 1, time 2, and time 3). The results (listed on table 4) indicate that at time 1, *labeling and description* is significantly correlated with performance ($r=.43$, $p < .05$), suggesting that the use of labeling and description is associated with greater task performance in children. At time 2, *perceptual questions* ($r= .39$, $p< .07$) and *praise* ($r= .40$, $p< .06$) are marginally associated with children's performance, suggesting that the use of perceptual questions and praise by mothers is associated with greater task performance in children. At time 3, *perceptual questions* ($r= -.57$, $p< .01$), *commands* ($r= -.74$, $p< .000$), *directives* ($r= -.51$, $p< .02$), *labeling and description* ($r= -.69$, $p< .01$), *verbal corrections* ($r= -.54$, $p< .02$), *modeling and demonstration* ($r= -.55$, $p< .01$), and *visual cues and corrections* ($r= -.67$, $p< .01$) are negatively associated with children's task performance, suggesting that the use of perceptual questions, commands, directives, labeling and description, verbal corrections, modeling and demonstration, and visual cues and physical corrections are associated with poorer task performance in children. *Praise*, however, was significantly positively associated with children's performance ($r= .45$, $p< .05$), suggesting that the use of verbal praise at time 3 by mothers is associated with greater task performance in children.

Discussion

Before continuing, some cautions must be considered while interpreting the present findings. First, the subjects represent a relatively educated and acculturated sample (US Department of Commerce, 1989; Chapa

& Valencia, 1993). Thus, the findings here are not readily generalizable to recent immigrants, less educated, or Spanish speaking populations. Second, due to the relatively small number of subjects, the statistical "power" of the study is limited (Kraemer, 1987), therefore, the findings must be read cautiously. With this in mind, however, the data indicate some interesting patterns.

The data here suggests that when given the opportunity, mothers may prefer to instruct in multiple short sessions (approximately 80% of the mothers used more than one session) rather than one extended session. Although the number of sessions did not appear to directly impact children's performance, the use of multiple sessions may indirectly impact children's performance. For example, by spreading instructions across brief multiple sessions, mothers may reduce the risk of over taxing children by making them work beyond their capacities (particularly as it relates to their child's attention span). This in turn may reduce the likelihood of stress and conflict during instruction. Support for this proposition may be seen by the low occurrence of disapproval by the mothers. The use of multiple brief instructional sessions for instructions may also arise due to the time constraints of the household at large (as you may recall, all these mothers are employed outside the home). These findings also resurface previously held concerns regarding the ecological validity of earlier studies (Moreno, 1991) which typically required mothers to interact with their children over one instructional session.

Examination of the mothers' overall use of teaching behaviors, revealed the instruction is heavily verbal in nature. In particular, mothers rely primarily on the use of "commands," "labeling," and "other verbal" utterances. Collectively, these three variables constitute 67% of all verbal

behavior elicited by the mother. The use of nonverbal teaching behaviors occurs relatively infrequently. This is particularly surprising given the nature of the task. While all mothers used some form of nonverbal instruction (i.e., modeling, visual cue and physical corrections), their teaching interactions might be best described as "talking their child through" the task rather than relying on the use of modeling or other nonverbal teaching behaviors as a primary teaching strategy (see below for further discussion of the use of modeling and demonstration).

As with other studies, the present study found maternal instruction to be influenced by maternal education. In particular, we found the number of years of formal schooling to be negatively associated with the mothers' use of "more controlling" teaching behaviors (i. e., commands, corrections, and visual cues and physical corrections, etc.). Modeling and demonstration was also found to be negatively associated with mothers' education, while the use of praise, was positively associated with maternal education. These findings suggest that more educated mothers use less intrusive and more reinforcing instructional behavior with their children. These findings replicate those of Laosa's (1978); however, we did not find that the use of questioning was associated with maternal education. This may be due in part to the distinction we make between the two types of questions (i. e., perceptual questions, conceptual questions), a distinction that Laosa does not make.

Maternal Instruction and Child Performance

When we examine children's performance and it's relation to overall instruction (the instruction summed across the three time periods), the findings appear somewhat limited. Of all the teaching behaviors measured, only commands and praise appear to be associated with children's task

performance. As one might expect, praise was positively associated with children's performance, while commands were negatively associated with children's performance. However, when we examine the instructional behaviors at each time period, a much more interesting and dynamic picture begins to come into view.

The analysis suggests that the use of particular teaching behaviors is not constant but differs across instruction. For example, the more "controlling" or "intrusive" behaviors apparently decrease in frequency over the course of instruction. This suggests that it is during the initial portion of the instruction that the mothers provide the most "control" or "structure" for the child by guiding and telling the child what to do (recall the frequent use of commands, particularly in time 1). These "controlling" behaviors decrease significantly as instruction progresses, thus suggesting that the mothers allow their children to take over more responsibility for completing the task (Rogoff, 1990).

More interestingly, the analysis reveals that the relation between teaching behaviors and child performance is varied. For example, when we reexamine the relation of commands and praises, we find that their association with children's performance is primarily "driven" by their relation to performance at the latter portions of instruction (times 2 and 3), and are initially (at time 1) unassociated with children's performance. Moreover, when we restricted our analysis to the overall instruction, the use of labeling and description appeared to have no relation to children's task performance; however, when we examine the instructional behaviors across the three time periods, we find the use of labeling and description to be significantly associated with children's task performance early in the instruction (time 1) and at the end of instruction (time 3). Yet, at time 1,

labeling and description is positively associated with performance, while at time 3, it is negatively associated with performance.

This pattern suggests that during the initial portion of instruction, effective mothers try to outline and describe the goals of the activity. The use of labeling and descriptions serve this purpose; mothers describe and label the activities necessary to complete the task. As instruction progresses, however, the activities and responsibility for completing the task eventually shift toward the child (as suggested by the decrease in the more "controlling" behaviors). The mothers then gradually "withdraw" or relinquish responsibility for completing the task. This is consistent with research examining the development of children's self-regulation where mothers' relinquishing strategies were positively associated with the children's takeover of regulatory roles (Diaz, Neal, & Amaya-Williams, 1990). Thus, effective instruction occurs when mothers invest substantial effort early in instruction and gradually withdraw, allowing the children to take over the responsibility for the task completion.

The negative association of labeling and description, as well as more directive or controlling behaviors (i. e., commands, perceptual questions, corrections, etc.) at latter points of instruction is indicative of a lack of withdrawal by the mother; however, the reason for this lack of maternal withdrawal is unclear. There are at least two possible scenarios. In the first case, the children may simply not be ready for the withdrawal to occur. The mothers continue to use commands, directives, etc., because the children do not display levels of competence that indicate readiness to take on more responsibility. This scenario assumes that the mother uses an appropriate instructional strategy, but it is the child's inability to "get" the task that prevents maternal withdrawal and ultimately task mastery. An alternative

scenario, however, is that task mastery is well within the child's ability, but it is impeded by the mother's inability to relinquish responsibility of the task and withdrawal appropriately. The child may be ready takeover greater responsibility of the task, but the mother does not identify when withdrawal is appropriate.

Unfortunately, the data presented here does not allow us to decide which of the two scenarios are at play here, or to what extent both are occurring. Current research is underway to understand how mothers monitor and assess their children's behaviors during instruction. Thus, we will be able to better understand how particular child behaviors inform mothers instructional practice. This is important if we are to understand the intricacies of how instruction progresses through the zone of proximal development, particularly as it relates cultural groups within the United States.

Finally, one of the most peculiar findings in this and other studies is the negative association between modeling and child task performance (Diaz, Neal, & Amaya-Williams, 1990). This is particularly interesting given the nature of the task (shoetying); one that would seem to lend itself to the use of modeling. In addition, the negative association of modeling with performance seems somewhat counter intuitive, given that much of our learning seems to be observational (Bandura, 1977). One explanation may lie in the nature of the task and the time frame for which it is to occur.

Ethnographic accounts of teaching and learning in different cultures have described teaching interactions that seem to rely heavily on what we may consider modeling and demonstration strategies for highly complex tasks such as weaving and tailoring (Greenfield, 1984; Lave, & Wenger, 1991; Rogoff, 1986). Although this instruction relies on modeling as a primary

strategy, children have the opportunity to observe and engage in a task frequently over a relatively extended period of time. It may be this time factor that determines the suitability of modeling as an effective teaching strategy. Thus, the relatively short time frame of our activity may have limited the effectiveness of a teaching interaction that relied heavily on modeling. It should also be stressed that careful observation of the effective mothers revealed that all mothers used some amount of modeling. That is to say that it is not modeling per se, that is ineffective, but an over reliance on modeling, given the nature and the time frame in which children are to acquire task competence.

Summary and Conclusion

The present study attempted to shed more light on the maternal instruction in Mexican American households. While the study replicated previous findings, particularly with regards to the influence of education on maternal instruction, it has also raised additional issues regarding maternal instruction in the home. In particular, the findings suggest that when observations approximate more naturally occurring conditions (that is, allowing mothers more discretion over instruction), instruction takes place over multiple brief sessions, questioning the validity of studies using "one time" observations. These findings also suggest that instruction described in terms of the overall frequency of maternal behaviors are limited, and may give rise to inaccurate accounts of the relevance and role of particular instructional behaviors. For example, the examination of maternal teaching behaviors at different points of instruction revealed the importance of timing when interpreting the impact of instruction on children's performance, as with the case of labeling and description.

Collectively the findings suggest that maternal instruction of Mexican Americans can be characterized by the use of more directive or controlling behaviors that decrease over the course of instruction, suggesting a gradual transfer of responsibility. More effective maternal instruction is distinguished by the use of labeling and description early in instruction, and the use of praise at latter portions of instruction.

Finally, the study attempts to move beyond gross characterizations of instruction patterns as "good" or "bad" (Moreno, 1991) to a more detailed understanding which attempts to understand under what conditions are particular instructional behaviors or teaching strategies effective and when they are not.

Clearly, many questions remain and further research is necessary. For example, what cues do mothers use to monitor the progress of their children and the effectiveness of their instruction? Do Mexican American mothers maintain the same teaching patterns across tasks or do these teaching patterns of "everyday task" differ considerably from more "school-like" tasks? The continuing development of answers to these questions will provide a thorough understanding of effective teaching interactions in Mexican American families, and may contribute to the development of effective intervention programs which will facilitate learning and perhaps later academic success.

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Table 1
Means and Standard Deviations of Demographic Information Items

	Mexican American (n=17)	
	M	SD
Mother's work hrs. (per week)	33.43	15.21
Annual household income	$33,642	$14,495
Persons in household	5	1.41
One-on-one time	6.13	1.86
Mother's years in school	12.31	2.35
Mother's occupation*	4.86	1.79

* Occupation scale: 1 = menial; 2 = unskilled; 3 = semiskilled; 4 = skilled manual; 5= clerical/sales; 6 = semiprofessionals; 8= lesser professionals; 9= major professionals

Table 2
Means and Standard Deviations of Mexican American Mothers' Verbal Teaching Behaviors

	Mexican American (n=17)	
	M	SD
Perceptual Questions	7.06	4.72
Conceptual Questions	7.00	5.48
Commands	36.59	23.30
Directives	10.47	5.79
Praise	10.71	8.27
Competence Attributions	1.50	1.91
Disapproval	0.06	0.24
Corrections	8.29	5.84
Labeling/Description	31.41	12.30
Other Verbal	25.65	12.41
Modeling or Demonstration	5.65	2.74
Visual Cue and Corrections	7.59	5.14
Physical Praise	0.65	0.70

Table 3
Means and Standard Deviations of Mothers' Teaching Behaviors by Time

	Time 1		Time 2		Time 3		
	M	SD	M	SD	M	SD	
Perceptual Questions	3.82	(3.59)	1.82	(1.70)	1.41	(2.09)	*
Conceptual Questions	2.29	(2.11)	2.82	(1.94)	1.88	(2.85)	
Commands	15.76	(11.01)	11.71	(8.15)	9.12	(9.71)	*
Directives	4.82	(3.99)	3.59	(2.32)	2.06	(1.82)	* *
Praise	3.59	(4.05)	3.18	(3.07)	3.94	(3.29)	
Corrections	2.29	(2.05)	3.24	(3.19)	2.76	(4.27)	
Labeling /Description	17.06	(7.01)	8.18	(5.70)	6.18	(5.03)	* * *
Other Verbal	11.18	(6.42)	8.12	(6.34)	6.35	(3.92)	*
Modeling & Demonstration	2.41	(1.33)	1.53	(0.94)	1.71	(1.40)	*
Visual Cues & Corrections	3.29	(2.89)	2.24	(2.02)	2.06	(2.33)	

* $p < .05$
** $p < .01$
*** $p < .001$

Table 4
Partial Correlations of Mothers' Teaching Behaviors and Children's Task Performance (controlling for Prescore)

	Time 1	Time 2	Time 3
	r	r	r
Perceptual Questions	-0.10	0.39†	-0.57**
Conceptual Questions	-0.27	-0.08	0.10
Commands	-0.18	-0.17	-0.74***
Directives	-0.16	0.19	-0.51*
Praise	0.14	0.40†	0.45*
Competence Attributions	-0.19	-0.10	0.31
Labeling/Description	0.43*	-0.15	-0.69**
Corrections	0.28	0.26	-0.54*
Other Verbal	-0.25	0.02	-0.15
Modeling & Demonstration	0.27	-0.14	-0.55**
Visual Cues & Corrections	0.22	-0.15	-0.67**
Physical Praise	0.16	0.23	0.10

† $p < .10$
*$p < .05$
**$p < .01$
***$p < .001$